

**Notice of Allowability**

Application No.

09/849,213

Examiner

Thai Phan

Applicant(s)

CHIANG, HSIAO-DONG

Art Unit

2128

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to applicant's amendment filed on 10/04/2006 and 04/03/07.
2. ☒ The allowed claim(s) is/are 15-21, 23, 25, 26, 28-33, and 37-40.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |   |
|--|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input type="checkbox"/> Notice of Informal Patent Application                     |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br>Paper No./Mail Date _____    | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment<br>(Attached)     |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance  |
|  | 9. <input type="checkbox"/> Other _____   |

*Thai Phan*  
THAI PHAN  
PRIMARY EXAMINER  
TECHNOLOGY CENTER 2100

### **DETAILED ACTION**

1. A review process indicates a reason for allowance is necessary to clarify the claimed subject matter. The 35 USC 101 issue was discussed during the prosecution of the present application. The reason for allowance below would clarify the claimed subject matter and be applied to a specific application by integrating a dynamic system to find a set of local optimal solutions and a global solution.

#### ***Allowable Subject Matter***

The claimed invention is directed to a computation numerical simulation (dynamical trajectory-based) method and computerized system for computing a dynamical decomposition point search to guide the search path to a global optimal solution to avoid searching regions which contain previously found local optimal solutions. The claimed invention requires steps and means to perform such steps:

“given a stable equilibrium point  $X_s$  (attraction region)”;

“moving along a search path  $\varphi_t(X_s) = \{X_s + t \times S, t \in \mathbb{R}^+\}$  starting from  $x$ , and detecting an exit point,  $X_{ex}$ , at which said search path  $\varphi_t(X_s)$  exits a stability boundary of a stable equilibrium point  $x$ , (by convergence check and ray connecting to exit point)”;

“using said exit point  $X_{ex}$  as an initial condition and integrating a nonlinear system to an equilibrium point  $X_d$  (by convergence check criterion)”;

“computing said dynamical decomposition point with respect to the stable equilibrium point  $X_s$ , wherein said search path is  $X_d$ ”; and

"displaying the dynamical decomposition point".

2. Because the prior art of record does not expressly disclose practical application of a dynamical trajectory based computation search method for numerical computation of dynamic decomposition points to direct a search path to a global optimal: by finding a feasible search path, moving along the search path to exit a stable equilibrium decomposition point, drawing a ray connecting the feasible decomposition points for a specific application with objective function from the starting point to the stable equilibrium point to form a path connected feasible components, and displaying the decomposition points on the connected trajectory path, for determining a large scale search system the claims are allowed.

3. The examiner performed the search for the related application thoroughly before the allowance was issued. The examiner will improve the search record.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thai Phan whose telephone number is 571-272-3783.

June. 05, 2007